

Serial No.: 10/806,327

Attorney Docket No. 7456

Claim Amendments

Please amend the claims as follows:

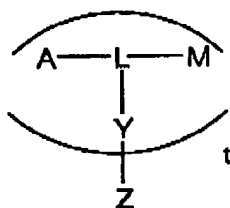
1. (previously presented) A compound comprising an amphetamine moiety and a methamphetamine moiety linked together by a first linking group wherein a second linking group is linked to said first linking group and the distance of the amphetamine moiety and the methamphetamine moiety from the point of linkage of said second linking group to said first linking group is approximately the same and wherein said second linking group terminates in a functional group.

2. (previously presented) A compound according to Claim 1 further comprising a poly(amino acid) or a non-poly(amino acid) label moiety is linked to said second linking group by means of said functional group.

3. (original) A compound according to Claim 1 wherein said distance is equal.

4. (original) A compound according to Claim 1 wherein said amphetamine and said methamphetamine are stereospecific.

5. (previously presented) A compound of the formula:



wherein:

A is an amphetamine moiety,

M is a methamphetamine moiety,

L is a linking group,

Y is a bond or a linking group and is bonded to L at a point equidistant between A and M,

and

Z is a poly(amino acid), a non-poly(amino acid) label moiety or a functional group;

Serial No.: 10/806,327

Attorney Docket No. 7456

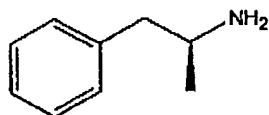
t is 1 when Z is a functional group or a non-poly(amino acid) label or, when Z is a poly(amino acid), t is an integer between 1 and the molecular weight of a poly(amino acid) divided by about 500;  
and salts thereof.

6. (previously presented) A compound according to Claim 5 wherein A and M are linked to L from the same corresponding positions in A and M.

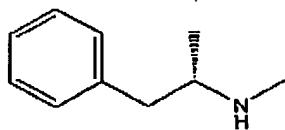
7. (previously presented) A compound according to Claim 5 wherein Z is an enzyme label.

8. (original) A compound according to Claim 5 wherein said amphetamine moiety and said methamphetamine moiety are stereospecific.

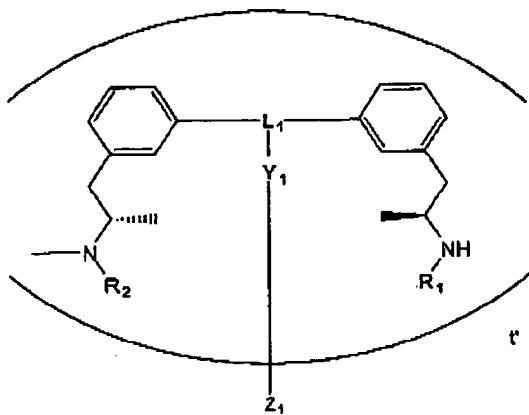
9. (original) A compound according to Claim 5 wherein A is:



10. (original) A compound according to Claim 5 wherein M is:



11. (previously presented) A compound of the formula:



Serial No.: 10/806,327

Attorney Docket No. 7456

wherein:

 $R_1$  is hydrogen, lower alkyl or a protecting group, $R_2$  is hydrogen, lower alkyl or a protecting group, $L_1$  is a linking group, $Y_1$  is a bond, a functional group or a linking group and is bonded to  $L_1$  at a point equidistant between the point of attachment to each of the phenyl groups, $Z_1$  is a poly(amino acid), a non-poly(amino acid) label or a functional group; and $t'$  is 1 when  $Z_1$  is a functional group or a non-poly(amino acid) label or, when  $Z_1$  is a poly(amino acid),  $t'$  is an integer between 1 and the molecular weight of a poly(amino acid) divided by about 500;

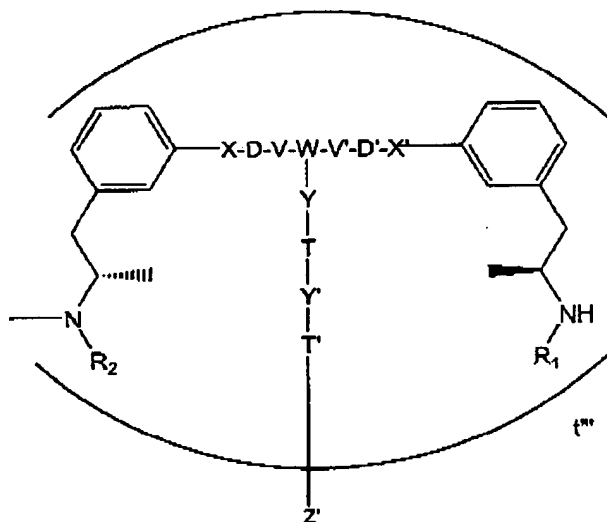
and salts thereof.

12. (previously presented) A compound according to Claim 11 wherein  $Z_1$  is an enzyme label.

13. (original) A compound according to Claim 11 wherein  $R_1$  is hydrogen.

14. (original) A compound according to Claim 11 wherein  $R_2$  is methyl.

15. (previously presented) A compound of the formula:



wherein:

Serial No.: 10/806,327

Attorney Docket No. 7456

$R_1$  and  $R_2$  are independently H or a protecting group,

$X$  and  $X'$  are independently O, S, or a bond;

$D$  and  $D'$  are independently alkylene or substituted alkylene;

$V$  and  $V'$  are independently O, S, or a bond;

$W$  is CH;

$Y$  is  $NR_3$  wherein  $R_3$  is H or lower alkyl, O, S, or a bond;

$T$  is alkylene,  $-(C=O)$ alkylene, ethereal alkylene, acetamide or a bond;

$Y'$  is  $NR_3$  wherein  $R_3$  is H or lower alkyl, O, S, or a bond;

$T'$  is alkylene,  $-(C=O)$ alkylene, ethereal alkylene, acetamide or a bond; and

$Z'$  is a poly(amino acid), a non-poly(amino acid) label moiety, H, Br, Cl, F, I,  $NH_2$ , acetamide, or haloacetamide;

$t''$  is 1 when  $Z'$  is a functional group or a non-poly(amino acid) label or, when  $Z'$  is a poly(amino acid),  $t''$  is an integer between 1 and the molecular weight of a poly(amino acid) divided by about 500;

with the proviso that  $X$  and  $X'$  have approximately the same length,  $D$  and  $D'$  have approximately the same length, and  $V$  and  $V'$  have approximately the same length; and salts thereof.

16. (previously presented) A compound according to Claim 15 wherein  $Z'$  is an enzyme label.

17. (original) A compound according to Claim 15 wherein  $X$  and  $X'$  are S.

18. (original) A compound according to Claim 15 wherein  $D$  and  $D'$  are methylene.

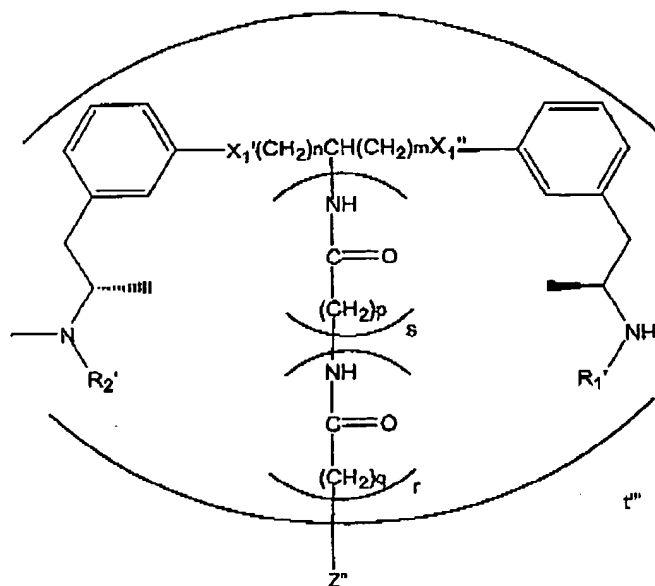
19. (original) A compound according to Claim 15 wherein  $Y$  and  $Y'$  are  $NH$ .

20. (original) A compound according to Claim 15 wherein  $T$  and  $T'$  are  $-(C=O)CH_2-$ .

21. (previously presented) A compound of the formula:

Serial No.: 10/806,327

Attorney Docket No. 7456



wherein:

$R_1'$  and  $R_2'$  are independently H or a protecting group,

$X_1'$  and  $X_1''$  are S or O;

$Z''$  is an enzyme; H, Br, Cl, F, I,  $NH_2$ , acetamide, or haloacetamide;

$t'''$  is 1 when  $Z''$  is other than an enzyme label and, when  $Z''$  is an enzyme label,  $t'''$  is an integer between 1 and the molecular weight of said enzyme label divided by about 500; and

$n$ ,  $m$ ,  $p$ ,  $q$  are each independently 1 to 5 and  $r$  and  $s$  are each independently 0 to 5;

and salts thereof.

22. (previously presented) A compound according to Claim 21 wherein  $R_1'$  and  $R_2'$  are H,  $X_1'$  and  $X_1''$  are S,  $n$ ,  $m$ ,  $p$ ,  $q$ ,  $r$  and  $s$  are 1, and  $Z''$  is an enzyme label.

23. (previously presented) A compound according to Claim 21 wherein  $R_1'$  and  $R_2'$  are H or a protecting group,  $X_1'$  and  $X_1''$  are S,  $n$  and  $m$  are 1,  $r$  and  $s$  are 0, and  $Z''$  is  $NH_2$ .

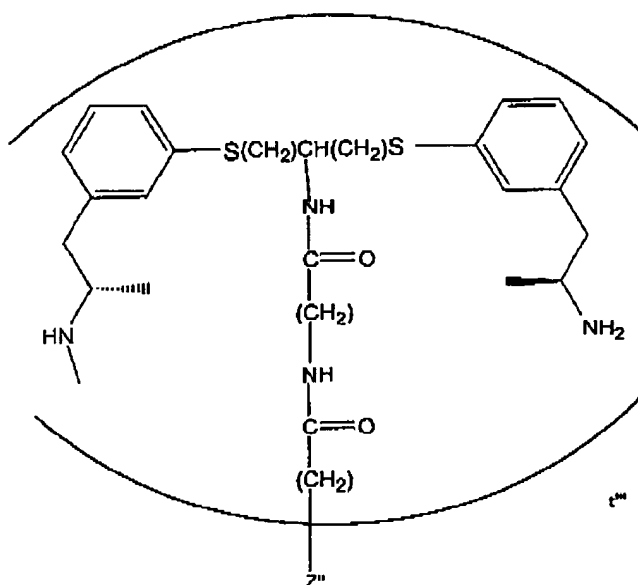
24. (previously presented) A compound according to Claim 21 wherein  $R_1'$  and  $R_2'$  are H or a protecting group,  $X_1'$  and  $X_1''$  are S,  $n$  and  $m$  are 1,  $r$  is 1 and  $s$  is 0, and  $Z''$  is Br.

25. (previously presented) A compound according to Claim 21 wherein  $R_1'$  and  $R_2'$  are H or a protecting group,  $X_1'$  and  $X_1''$  are S,  $n$  and  $m$  are 1,  $r$  and  $s$  are 1, and  $Z''$  is Br.

Serial No.: 10/806,327

Attorney Docket No. 7456

26. (previously presented) A compound of the formula:



wherein:

Z'' is an enzyme label; and

t''' is an integer between 1 and the molecular weight of said enzyme label divided by about 500.

27. (previously presented) A compound according to Claim 26 wherein said enzyme label is glucose-6-phosphate dehydrogenase.

Claims 28-47 (canceled).

48. (new) A reagent system comprising a compound according to Claim 26, an antibody for amphetamine and an antibody for methamphetamine.

49. (new) A method for determining amphetamine and/or methamphetamine in a sample suspected of containing amphetamine and/or methamphetamine, said method comprising:

- (a) providing in combination in a medium:
  - (i) said sample and
  - (ii) a reagent system according to Claim 48; and
- (b) examining for the presence or amount of signal from said enzyme, the presence or

Serial No.: 10/806,327

Attorney Docket No. 7456

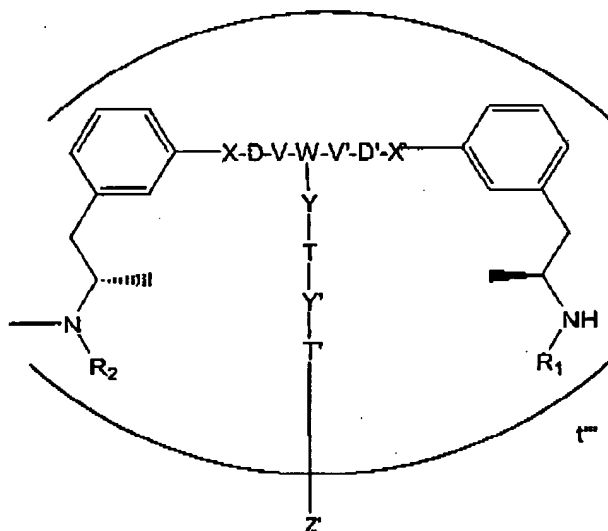
amount thereof indicating the presence or amount of said amphetamine and/or methamphetamine in said sample.

50. (new) A method according to Claim 49 wherein said method is a homogeneous method.

51. (new) A method according to Claim 49 wherein said method is a heterogeneous method.

52. (new) A method for determining amphetamine and/or methamphetamine in a sample suspected of containing amphetamine and/or methamphetamine, said method comprising:

- (a) providing in combination in a medium:
  - (i) said sample,
  - (ii) an antibody for amphetamine,
  - (iii) an antibody for methamphetamine,
  - (iv) a compound of the formula:



wherein:

$R_1$  and  $R_2$  are H,

$X$  and  $X'$  are independently O, S, or a bond;

$D$  and  $D'$  are independently alkylene or substituted alkylene;

$V$  and  $V'$  are independently O, S, or a bond;

$W$  is CH;

Serial No.: 10/806,327

Attorney Docket No. 7456

Y is O, S, a bond, or NR<sub>3</sub> wherein R<sub>3</sub> is H or lower alkyl;

T is alkylene, -(C=O)alkylene, , ethereal alkylene, acetamide or a bond;

Y' is O, S, a bond, or NR<sub>3</sub> wherein R<sub>3</sub> is H or lower alkyl;

T' is alkylene, -(C=O)alkylene, ethereal alkylene, acetamide or a bond; and

Z' is an enzyme;

t' is an integer between 1 and the molecular weight of said enzyme divided by about 500;

with the proviso that X and X' have approximately the same length, D and D' have approximately the same length, and V and V' have approximately the same length; and

(b) examining for the presence or amount of signal from said enzyme, the presence or amount thereof indicating the presence or amount of said amphetamine and/or methamphetamine in said sample.

53. (new) A method according to Claim 52 wherein said method is a homogeneous method.

54. (new) A method according to Claim 52 wherein said method is a heterogeneous method.

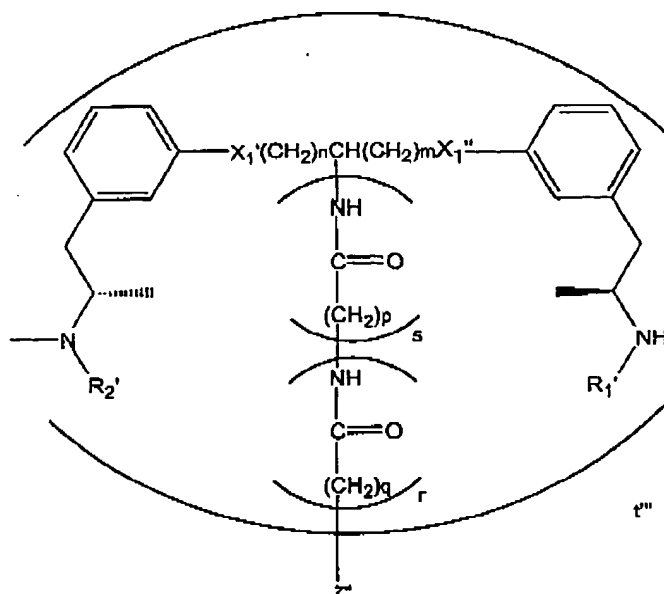
55. (new) A method according to Claim 52 wherein said enzyme is glucose-6-phosphate dehydrogenase.

56. (new) A method for determining amphetamine and/or methamphetamine in a sample suspected of containing amphetamine and/or methamphetamine, said method comprising:

- (a) providing in combination in a medium:
  - (i) said sample,
  - (ii) an antibody for amphetamine,
  - (iii) an antibody for methamphetamine,
  - (iv) a compound of the formula:

Serial No.: 10/806,327

Attorney Docket No. 7456



wherein:

$R_1'$  and  $R_2'$  are H,

$X_1'$  and  $X_1''$  are S or O;

$Z''$  is an enzyme;

$t'''$  is an integer between 1 and the molecular weight of said enzyme divided by about 500;

and

$n$ ,  $m$ ,  $p$ ,  $q$ ,  $r$  and  $s$  are each independently 1 to 5; and

(b) examining for the presence or amount of signal from said enzyme, the presence or amount thereof indicating the presence or amount of said amphetamine and/or methamphetamine in said sample.

57. (new) A method according to Claim 56 wherein said method is a homogeneous method.

58. (new) A method according to Claim 56 wherein said method is a heterogeneous method.

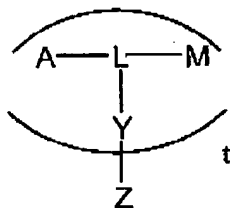
59. (new) A method according to Claim 56 wherein said enzyme is glucose-6-phosphate dehydrogenase.

60. (new) A kit comprising in packaged combination:

Serial No.: 10/806,327

Attorney Docket No. 7456

- (i) an antibody for amphetamine,
- (ii) an antibody for methamphetamine,
- (iii) a compound of the formula:



wherein:

A is an amphetamine moiety,

M is a methamphetamine moiety,

L is a linking group,

Y is a bond or a linking group and is bonded to L at a point equidistant between A and M,

Z is an enzyme,

t is an integer between 1 and the molecular weight of said enzyme divided by about 500.

61. (new) A kit according to Claim 60 wherein A and M are linked to L from the same corresponding position in A and M.

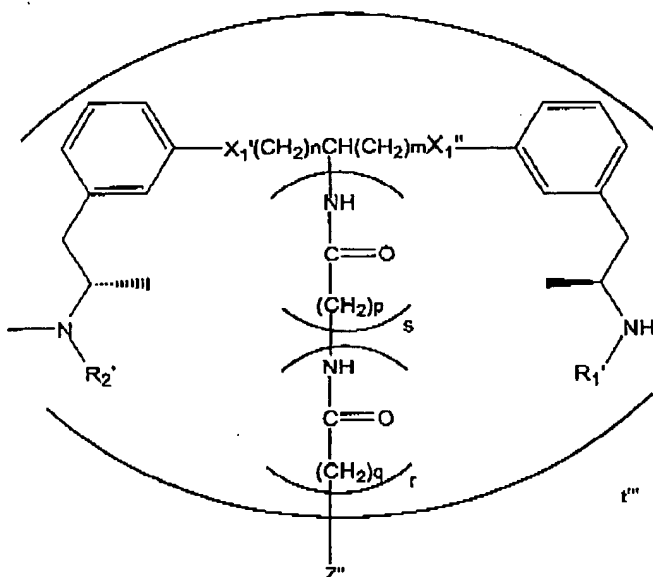
62. (new) A kit according to Claim 60 wherein said amphetamine and said methamphetamine are stereospecific.

63. (new) A kit according to Claim 60 wherein said enzyme is glucose-6-phosphate dehydrogenase.

64. (new) A kit according to Claim 60 wherein said compound has the formula:

Serial No.: 10/806,327

Attorney Docket No. 7456



wherein:

$R_1'$  and  $R_2'$  are H,

$X_1'$  and  $X_1''$  are S or O;

$Z''$  is an enzyme;

$t'''$  is an integer between 1 and the molecular weight of said enzyme divided by about 500;

and

$n$ ,  $m$ ,  $p$ ,  $q$ ,  $r$  and  $s$  are each independently 1 to 5.